

# Exercise Solutions for Math 20

Factoring Polynomials and Simplifying Rational Expressions

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# 1

Factor the following completely.

## 1.1

$$16x^4 - 1$$

$\Rightarrow (4x^2 - 1)(4x^2 + 1)$	Factor using difference of two squares.
$\Rightarrow (2x - 1)(2x + 1)(4x^2 + 1)$	Factor using difference of two squares. ■

## 1.2

$$8j^3 - 125k^6$$

$\Rightarrow (2j - 5k^2)(4j^2 + 10jk^2 + 25k^4)$	Factor using difference of two cubes. ■
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## 1.3

$$s^2 + 7s + 10$$

$\Rightarrow (s + 2)(s + 5)$	Factor by grouping. ■
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